CHIMERIC ANTIGEN RECEPTORS (CARS) TO CD30 FOR TREATING LYMPHOMA AND OTHER CANCERS

SUMMARY

The National Cancer Institute seeks licensees for a chimeric antigen receptor (CAR) that recognizes human tumor necrosis factor receptor superfamily member 8 (TNFRSF8, also known as CD30).

REFERENCE NUMBER

E-001-2016

PRODUCT TYPE

- Therapeutics

KEYWORDS

- CAR
- adoptive cell therapy
- CD30

COLLABORATION OPPORTUNITY

This invention is available for licensing.

CONTACT

John D. Hewes
NCI - National Cancer Institute
240-276-5515

John.Hewes@nih.gov

DESCRIPTION OF TECHNOLOGY

Chimeric antigen receptors (CARs) are hybrid proteins that consist of two major components: a targeting domain and a signaling domain. The targeting domain allows T cells which express the CAR to selectively recognize and bind to diseased cells that express a particular protein. Once the diseased cell is bound by the targeting domain of the CAR, the signaling domain of the CAR activates the T cell, thereby allowing it to kill the diseased cell. This is a promising new therapeutic approach known as adoptive cell therapy (ACT).

Researchers at the NCI Experimental Transplantation and Immunology Branch developed a CAR that recognizes human tumor necrosis factor receptor superfamily member 8 (TNFRSF8, also known as CD30). The expression of CD30 is deregulated in a variety of human cancers, including many lymphomas. By creating a CAR that recognizes CD30, it may be possible to treat these cancers using adoptive cell therapy.

POTENTIAL COMMERCIAL APPLICATIONS

- Treatment of human cancers associated with expression of CD30 or variants thereof
- Specific cancers include: Non-Hodgkins Lymphomas, Hodgkin's Lymphomas, several solid malignancies

COMPETITIVE ADVANTAGES

- Human components are less likely to cause adverse or neutralizing immune response in patients
- Targeted therapies decrease non-specific killing of healthy cells and tissues, resulting in fewer off-target side-effects and healthier patients

INVENTOR(S)

Jim N. Kochenderfer, M.D. (NCI)

DEVELOPMENT STAGE

- Pre-clinical (in vivo)

PATENT STATUS

- **U.S. Filed:** US Provisional Application 62/241,896

THERAPEUTIC AREA

- Cancer/Neoplasm